

NEW HAMPSHIRE WATER SUPPLY AND POLLUTION CONTROL COMMISSION

LAKE TROPHIC DATA

MORPHOMETRIC:

LAKE <u>Katherine, Lake</u>	LAKE AREA (HA) <u>15.01</u>
TOWN <u>Piermont</u>	MAXIMUM DEPTH (M) <u>6.4</u>
COUNTY <u>Grafton</u>	MEAN DEPTH (M) <u>3.5</u>
RIVER BASIN <u>Connecticut</u>	VOLUME (M ³) <u>528,000</u>
LATITUDE <u>43° 59'N</u>	MUD SURFACE AREA (HA) <u>14.78</u>
LONGITUDE <u>71° 59'W</u>	RELATIVE DEPTH <u>1.5</u>
ELEVATION (FT) <u>1339</u>	SHORE CONFIGURATION <u>1.31</u>
SHORE LENGTH (M) <u>1800</u>	AREAL WATER LOAD (M/YR) <u>6.87</u>
WATERSHED AREA (HA) <u>212.4</u>	FLUSHING RATE (YR ⁻¹) <u>2.0</u>
% WATERSHED PONDED <u>0%</u>	PHOSPHORUS RETENTION COEFF. <u>0.60</u>

BIOLOGICAL:

DATE	11 FEB 1986	27 AUG 1985
DOM. PHYTOPLANKTON (% total) ¹	Mallomonas (75%)	Ceratium (35%)
²	Synura (15%)	Staurostrum (20%)
NUMBER OF ALGAL GENERA	8	11
SPECIES DIVERSITY		2.75
CHLOROPHYLL <u>a</u> (µg/L)		2.01
DOM. ZOOPLANKTON (% total) ¹	Nauplii larvae (55%)	Nauplii larvae (20%)
²		Holopedium (20%)
ROTIFERS/LITER	35	35
MICROCRUSTACEA/LITER	48	63
TOTAL ZOOPLANK. CNTS (cells/L)	83	98
VASCULAR PLANT ABUNDANCE		Scattered
DOMINANT VASCULAR PLANTS ¹		Eriocaulon
²		Myriophyllum
³		Equisetum
SECCHI DISK TRANSPARENCY (M)		6.3 VOB
BOTTOM DISS. OXYGEN (mg/L)	4.9	8.2
SEDIMENT: % ORGANIC MATTER		

LAKE TYPE: A natural pond raised by damming.

SUMMER THERMAL STRATIFICATION: YES ☐ NO ☒ WEAK ☐

IF YES, VOLUME OF HYPOLIMNION (m³) THERMOCLINE DEPTH (m)

CHEMICAL: (mg/L unless indicated otherwise) LAKE: Katherine, Lake

	WINTER		SUMMER		
DATE	11 FEB 1986		27 AUG 1985		
DEPTH (M)	2.0	4.0	2.0	4.0	
pH (UNITS)	6.5	6.4	7.0	6.9	
ALKALINITY (I. P.)	4.8	5.7	5.7	5.7	
ALKALINITY (F.E.P.)	6.6	7.4	7.1	7.1	
NITRITE+NITRATE NITROGEN			< 0.05	< 0.05	
TOTAL KJELDAHL NITROGEN			0.32	0.29	
TOTAL PHOSPHORUS	0.007	0.004	0.011	0.011	
SPEC. CONDUCT. (μ Mhos/cm)	36.6	39.1	35.3	34.9	
APPARENT COLOR (UNITS)	20	20	15	15	
TRUE COLOR (440 nm)(UNITS)	NR	17	8	10	
MAGNESIUM			0.59		
CALCIUM			3.4		
SODIUM			< 3		
POTASSIUM			0.5		
CHLORIDE			< 2	< 2	
TN : TP			29	26	
INORG-N : INORG-P					
[Mg+Ca] : [Na+K]					
CALCITE SATURATION INDEX			3.0		

* = NOT DEFENSIBLE

NR = NO RESULT

TROPHIC CLASSIFICATION: 1985

CLASSIFICATION POINTS:

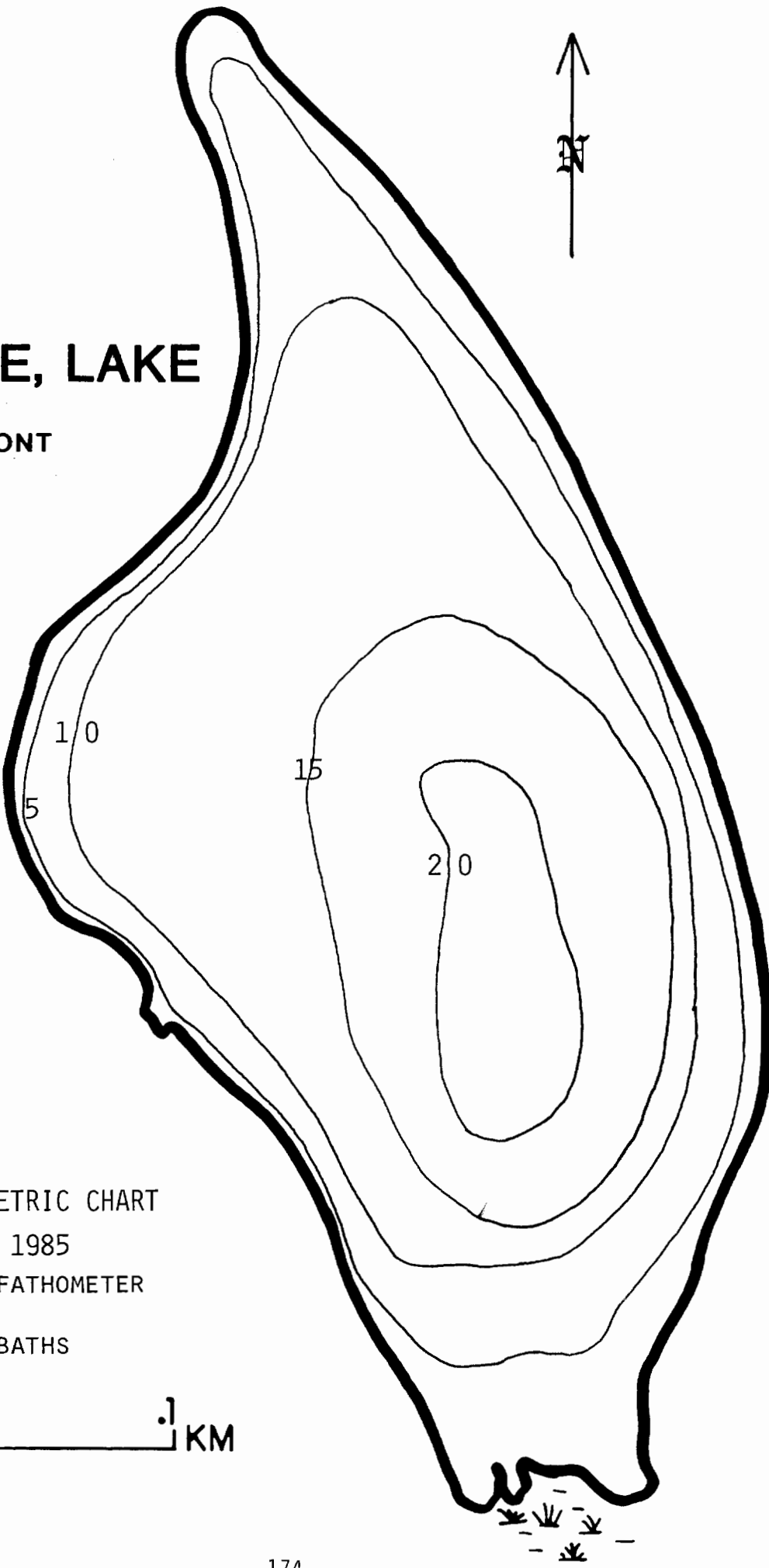
D.O.	S.D.	PLANT ABUND.	CHL a	TOTAL PTS.	TROPHIC CLASS.
-	0	1	0	1	Oligo.

COMMENTS:

1. Clear water with bottom rocks and plants covered with silt.
2. Poor access; drove across a field to get to the lake.

KATHERINE, LAKE

PIERMONT



ROUGH BATHYMETRIC CHART

WSPCC - 1985

SOUNDED BY FATHOMETER

5 FT ISOBATHS



FIELD DATA SHEET

WATER BODY Katherine, LakeTOWN PiermontBY WSPCCDATE COLLECTED 27 August 1985WEATHER Mostly cloudy; light breeze

STATION	DEPTH (M)	TEMP. (°C)	*DISSOLVED OXYGEN	OXYGEN: % SATURATION			
DEEP SPOT	0.1	20.8	8.7	97%			
	1.0	20.0	8.7	97%			
	2.0	20.0	8.7	97%			
	3.0	19.8	8.6	94%			
	4.0	19.8	8.5	93%			
	5.0	19.8	8.5	93%			
	6.0	19.8	8.2	91%			

SECCHI DISK (M) 6.3 V.O.B.BOTTOM DEPTH (M) 6.3TIME 1200 hrs.COMMENTS: 1. Secchi disk was 'visible
on bottom' at 6.3 meters.

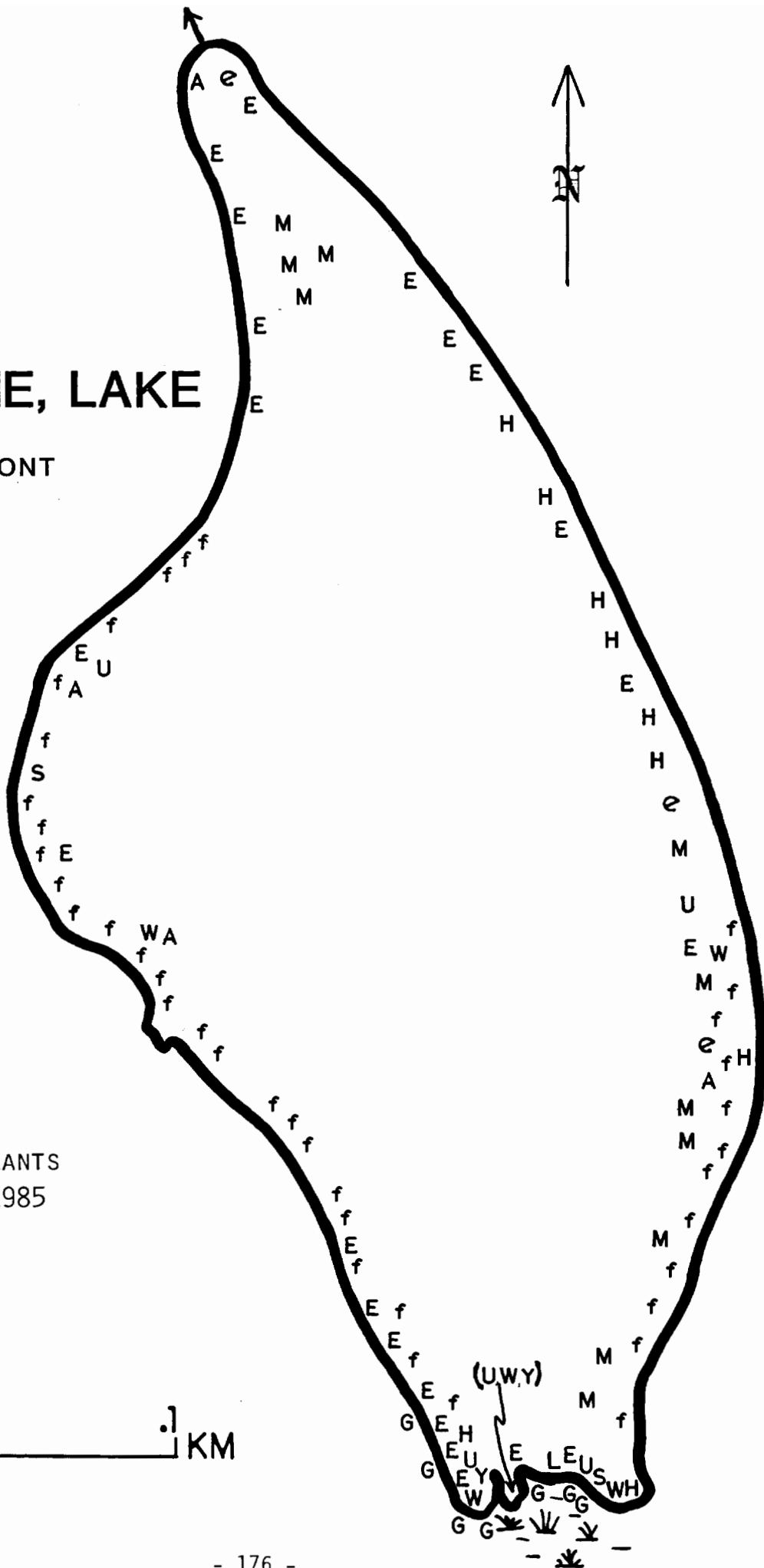
* Dissolved oxygen values in mg/L - 175 -

KATHERINE, LAKE

PIERMONT

AQUATIC PLANTS
27 AUG 1985

0 .1 KM



AQUATIC PLANT SURVEY

LAKE Katherine, Lake TOWN Piermont DATE 27 AUG 85 BY WSPCC

[illegible]

OVERALL ABUNDANCE		Scattered
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GENERAL OBSERVATIONS:

1. Filamentous green algae (mostly Mougeotia) were very common along most of the shoreline.
2. Some good-sized beds of low-growing milfoil were present in scattered locations.
3. Except for scattered pipewort growth, all emergent and floating-leaf plants were sparse.
4. Mussels were very abundant. Recent beaver activity was evident. Small fish were observed.

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